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The Challenges of the EU Banking Union - will it succeed in dealing with the next financial crisis?

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Abstract

The EU Banking Union combines micro- and macro-prudential regulation. It aims at breaking the "doom loop" between banks and sovereign debt, promoting financial stability and mitigating the next financial shock to the real EU economy, at the lowest possible cost to the financial institutions and to the taxpayers. Success, or failure, is determined by how the banking union copes with the challenges to its two main pillars, the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM). Under the SSM, in its new supervisory role, the ECB may be subject to conflicts between the objectives of price and financial stability, and the single-supervisor role may be sub-optimal. Two regulators might have been preferable and more focus on ECB accountability will now be required.

The shock-absorbing Single Resolution Fund (SRF), which is part of the SRM, may not have the capacity to deal with a crisis of the size of the one of 2008. Especially as the nature and severity of a future financial crisis cannot be forecasted.

The design of the banking union is not the result of theoretical studies, but a political compromise to deal with an acute crisis. The theoretical studies that are included in this paper are not supportive of the banking union in its current form. Nevertheless, there is a good chance that the EU Banking Union may succeed, as ECB supervision of the 123 systemically important banks should contain potential demands on the SRM. In the event of a crisis that is too severe for the banking union to absorb with its current capability, the crucial assumption is that there is political will to rapidly provide new resources. The same applies, if a major financial crisis develops before the banking union is fully operational.

Keywords: Banking Union, supervision, resolution, Eurozone, financial crisis

JEL codes: E42, E52, F33, F36, G01, 052

1. Introduction

A main lesson learned from the financial crisis of 2008 is that bank failures have major negative implications that go far beyond the immediate threats to depositors and shareholders. As the global financial crisis worsened, it triggered the Eurozone debt crisis in 2010-11. The interdependence of the economies in the Eurozone became more and more evident, and national policies proved ineffective. Many academics and policymakers called for a much stronger European financial integration. At the Euro Area summit in June 2012, the European Council took the milestone decision to '*break the vicious circle between banks and sovereigns*' (EC 2015). This was the birth of the EU Banking Union.

This paper examines the theoretical foundations of the EU Banking Union in a broader monetary context. Several challenges of both a structural and a more political nature will be discussed, including those of the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM).

The first challenge is that the ECB will serve as the ultimate supervisor under the SSM, which may cause conflict between prioritizing price stability and financial stability. The optimal number of supervisors will be discussed from a theoretical point of view, which may shed light on the challenges related to the single-supervisor arrangement.

The second and perhaps the strongest challenge is, under the SRM, the scope of the Single Resolution Fund (SRF) and its shock-absorbing capacity in the event of a new financial crisis. This is a key success criterion of the EU Banking Union. Its ability to mitigate the next financial crisis will first and foremost depend on the size and scope of the resolution fund, which must be constructed in a manner to prevent the creation of excessive risk-taking and moral hazard.
A third challenge is political. The opposition towards the Eurozone and the Euro has grown since 2012. The Greek crisis, still unsolved, is one cause of this development. In the UK a referendum in 2017 will decide membership of a country, which has the most important financial marketplace in the EU, even though the UK is not a member of the Euro. Its outcome is by no means certain, given the latest leadership change in the Labor Party.

In the longer term, the success criteria of the EU Banking Union are both economic and political. Will it allow banks to provide finance to the companies, not least the small and medium-sized firms, that must create growth and jobs in the EU? If not, political support may evaporate.

2. The theoretical foundations of a banking union

Recent studies show mixed results on the theoretical effects of bank regulation and supervision. There are opposing views on whether restrictions on bank activities, higher capital ratios and more centralized supervision contribute to financial stability. Yet there seems to be a general agreement in the economic literature, that a lender of last resort and a common deposit insurance system are essential in order to ensure financial stability and minimize losses to taxpayers. In the following, an extended version of Mundell's Theory of Optimal Currency Area (OCA) from 1961 will, out of

necessity, serve as a proxy for a theory of a banking union. Empirically, the Eurocrisis of 2010-11 will serve as a case of what may happen in the absence of a banking union.

2.1. An extended Theory of Optimal Currency Area

Mundell's conditions for an OCA may be summarized as follows (Geeroms & Karbownik 2014b): 1) is the real economy hit by homogenous shocks? If not, 2) is there sufficient flexibility in factor markets? If not 3) deeper economic integration is needed, i.e. interregional transfers and the introduction of a fiscal union. Thus, if the answers to the first two questions are negative, stronger financial integration must be conducted in order for a monetary union to be optimal. Examining 1)-2) in an European setting yields the following preliminary conclusions: 1) no, the EU economy is regularly hit by asymmetric shocks and 2) no, the EU factors markets are relatively inflexible, in particular the labour and capital markets. Wages are rigid and the financial crisis led banks to withdraw behind national borders resulting in inflexible capital markets. Hence, the EU does not seem to satisfy the requirements of an OCA, and suggests that deeper financial integration is needed, e.g. in form of a fiscal or banking union.

Mundell further argues that despite insufficient flexibility in factor markets, a monetary union may still be functional as long as there is a tolerable level of shock absorbing capacity and solidarity at the federal level (Geeroms & Karbownik 2014b). But in the EU case the level of structural solidarity appears to be relatively low. The EU budget is small, 1% of EU GDP, only half of which represents transfers from wealthy to poor member states. This suggests that the level of structural solidarity does not compensate for the lack of flexibility in factor markets, and hence that a monetary union is not optimal in an EU context.

The traditional theory of OCA from the 1960s does not provide any theoretical foundation for a banking union, perhaps because the capital restrictions prevailing at that time made such a union irrelevant. Mundell himself added a new feature to the model in 1973, which is associated with the properties of a banking union. He argued that a common currency can better absorb adverse shocks, even in the lack of factor flexibility and structural solidarity, if member states can "insure" each other through financial markets. This is an example of risk sharing. Financial integration allows asymmetric shocks to cushion trough capital flows, allowing deficit countries to borrow from surplus countries or financing their current account deficit by selling foreign assets. This additional sharing of risks, described by Mundell in 1973, may be associated with a banking union. In a banking union, the shareholders are spread among the currency union, firms may borrow from foreign banks in other member states and a common resolution fund, instead of a national resolution fund, is responsible for rescuing failing banks. As a banking union is essentially a move forward in financial integration, there is a relevant link to Mundell's theory of OCA.

This move towards a stronger financial integration also occurs from the common bank supervision scheme, as it serves to prevent lax national regulation that may worsen the negative effects of an asymmetric shock.

2.2. The economic consequences of a Eurozone without a banking union: the Eurocrisis

The Eurocrisis of 2010-11 was initially triggered by the global financial crisis, originating from the real estate bubble in the US and the resulting freezing of the wholesale market. National

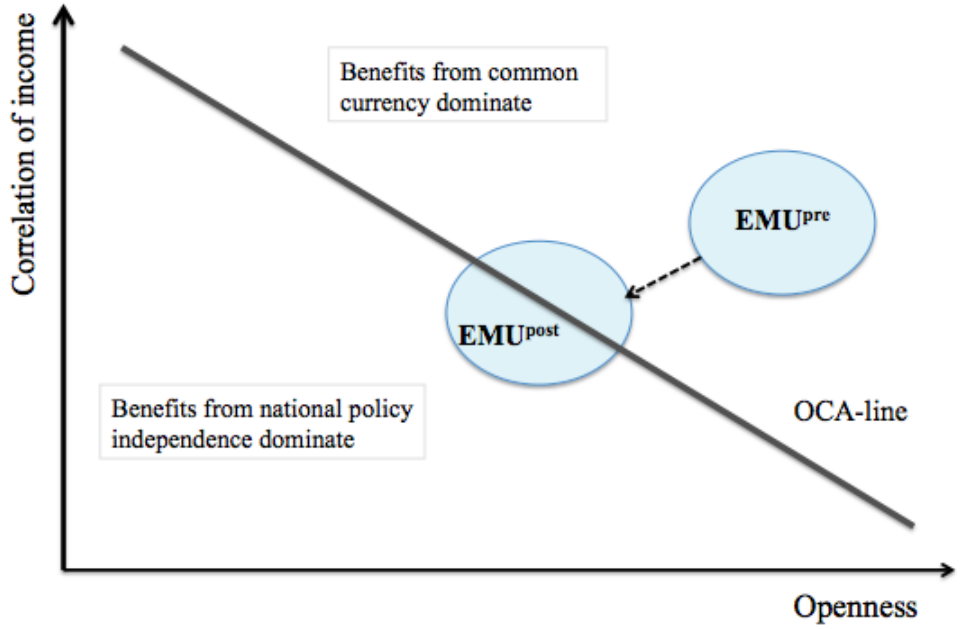
governments, in total 22 member states, came to rescue financial institutions in many EU member states. More than 100 EU banks, accounting at the time for approximately 25% of the total assets in the banking system, received state aid (Huber & Merc 2014). These government bailouts were initially very costly and some Southern Eurozone-countries might have had to declare bankruptcy, if the EU and the IMF did not intervene by providing financial assistance.

As Europe entered into a recession in 2009, it became clear that banks in especially Southern Europe held a very large amount of sovereign bonds in their books, which would be worthless if the sovereign defaulted (Geeroms & Karbownik 2014b). Traditionally there has been a greater reliance in European countries on bank credit for financing both business and sovereign debt, than in the US. The impact of the euro gave financial integration a strong push with a major increase in cross-border financial flows, and interest rate differentials almost disappeared among Euro-countries. The financial- and the Eurocrisis changed this dramatically. Banks from Northern member states stopped investing in sovereign debt of Southern member states. As a result, domestic banks of Southern member states increased their exposure on debt of their own sovereign debt, i.e. from 26% to 33% in Spain and from 14% to 18% in Greece (Geeroms & Karbownik 2014b). This closer relationship between banks and sovereign debt in Southern Europe resulted in the creation of a virtual "Berlin wall" between banks in Southern and those in Northern Europe. Banks in Southern Europe became relatively weaker and more fragile, as their activities are concentrated in weak economies and linked to weak governments. Banks in Northern Europe cut lending to everyone, but stopped lending to Southern banks on the interbank market. This had a negative impact on the costs of credit for governments, businesses and households in the Southern Eurozone-countries, resulting in lower levels of employment and investment and the risk of a break-up of the euro.

The Eurocrisis of 2010-11 revealed the "vicious circle" between governments and banks, as it increased government debt and threatened to force banks to default euro (Geeroms & Karbownik 2014b). It became clear that initiatives to break this link were urgently needed, and the banking union seeks to address this. Before the Eurocrisis this was not a problem, and no mechanisms were implemented to deal with a debt threat of this size. As a consequence, the emergency rescue plans of the ECB had to be endorsed on an ad-hoc basis in the midst of the on-going crisis. This was difficult, especially as the largest Eurozone-countries had different opinions, which slowed the decision-making process. This lack of rapid response in the EU, compared to the US, resulted in a confidence crisis that possibly prolonged the economic downturn.

Returning to the theory of OCA, it has been argued that the impact of the Eurocrisis and the introduction of a banking union, may be described in the following way (Geeroms & Karbownik 2014a): The Eurocrisis led to larger income differentials across Eurozone member states, in particular between Northern and Southern countries. At the same time the degree of openness, in particular in terms of financial integration and capital flows, was reduced. Both effects are shown in figure 1, where the Eurozone moved from EMU (pre-crisis) to EMU (post-crisis). The OCA-line reflects the average location of member states on the scale between openness and income levels.

Figure 1: Impact of the Eurocrisis in an OCA-framework

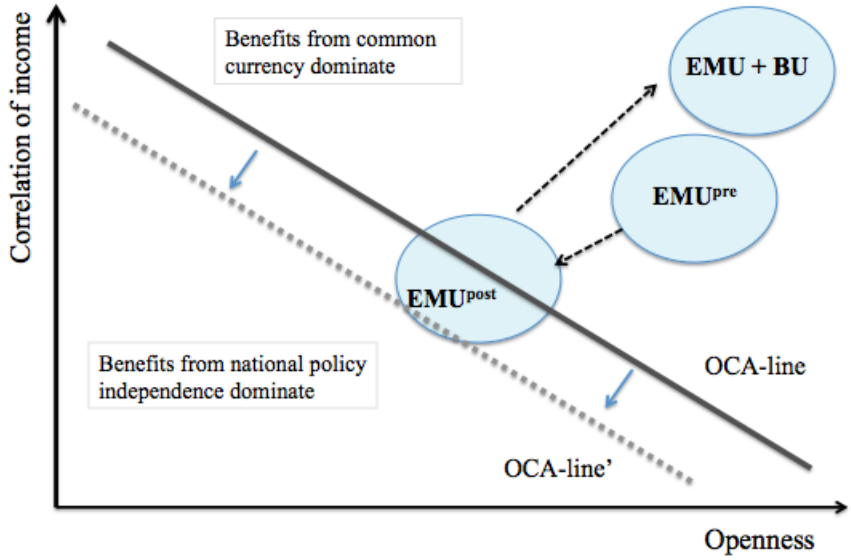


Source: Geeroms & Karbownik 2014a

Hence, according to Geeroms & Karbownik (2014), some Eurozone member states would fall below the OCA-line as a result of the Eurocrisis. The decreased levels of financial integration (openness) and divergent income levels would imply that some countries, for instance Greece, would be better off leaving the Eurozone.

The banking union is intended to strengthen the Eurozone, making is less likely that some Eurozone countries would be better off by leaving the existing monetary union. The effects of the introduction of the EU banking union may be presented in the framework of Mundell's theory of OCA, as argued by Geeroms & Karbownik (2014). This is shown in figure 2. They claim that a banking union would increase financial integration by harmonizing regulation, i.e. by implementing common set of rules, common supervisory and resolution mechanisms. This would stimulate capital flows and lead to a higher degree of openness, which is shown by a shift from EMU (post-crisis) to EMU + BU (Geeroms & Karbownik 2014a). At the same time the common EU resolution scheme, the SRM, brings along more common risk sharing. This increases the benefits of a common currency, which shifts the OCA-line downwards to OCA'.

Figure 2: Impact of the introduction of a banking union in an OCA-framework



Source: Geeroms & Karbownik 2014a

The common supervisory scheme of a banking union prevents lax national regulation. Hence, a banking union serves both to remedy and prevent asymmetric shocks to the economy, and the theoretical argument for a banking union may be explained by an extended version of the theory of OCA. The introduction of a banking union enriches the effectiveness of the EMU, as it brings along additional levels of income convergence and financial integration.

3. Pre- and post-crisis financial regulation in the EU

The regulatory framework operating prior to the financial crisis was micro-prudential in nature, prioritizing the stability of individual financial institutions, but it failed to maintain a stable financial system (Brunnermeier et al. 2009). Increasingly the concern is not the failure of individual financial firms, but the existence of systemic risks leading to a system-wide collapse of the financial system (Canuto & Ghosh 2013). The post-crisis regulatory framework has been focused on a more macro-prudential approach, which seeks to broaden the mandate of regulators and supervisors to monitor the overall potential systemic risks and weaknesses of the EU financial markets. The banking union is the core element of the new focus on macro-prudential policies.

3.1. Pre-crisis financial regulation: a microprudential framework

Micro-prudential regulation was the norm up until the financial crisis stroke in third quarter of 2008. The micro-prudential approach is intended to prevent the failure of individual banks and financial institutions, whether due to exogenous shocks or mismanagement of risks. Some economists argue, that micro-prudential regulation makes an important contribution to ensure financial stability of the system as a whole, as healthy individual institutions are a necessary condition for a sound financial system (Osiński et al. 2013). It does, however, rely on banks safeguarding themselves with government-insured deposits, disregards the endogenous systemic risks and deemphasises the implications of collective behaviour (University of Warwick 2009).

The micro-prudential approach aims at promoting financial stability through the monitoring of individual financial institutions, but some argue that it may indeed lead to financial instability (Hanson et al. 2011). The next section examines both arguments. An understanding is essential in order to evaluate the optimal structure and requirements of the nascent EU Banking Union.

3.1.1. Why did micro-prudential regulation fail?

Micro-prudential regulation clearly failed to prevent or substantially mitigate the banking crisis in the EU, as it did not anticipate the systemic risks of major banks failing (Zhou 2011). Without central bank and government intervention, the EU banking system would have collapsed. In all fairness, the financial crisis of 2008 was the deepest since the 1930s, and the micro-prudential approach has been successful over a long period of time. However, many economists argue that the nature of risks has radically changed and that a new macro-prudential framework must be adapted (Hanson et al. 2011).

Under the pre-crisis micro-prudential regulatory framework, banks and financial firms only had to comply with the legal requirements imposed on their own business (Hanson et al. 2011). If a bank behaved recklessly it would let other banks bear the burden. If a large number of big banks behaved similarly, it could and did generate a collapse of the entire system.

One specific criticism of micro-prudential regulation concerns the indifference to the method of adjusting the capital ratio of a bank (Hanson et al. 2011). To illustrate this mechanism consider a bank's Capital Adequacy Ratio (CAR), described by the following relation:

$$\frac{\text{Tier 1 capital} + \text{Tier 2 capital}}{\text{Risk weighted assets}}$$

Tier 1 capital refers to core capital equity and tier 2 capital is supplementary capital. The micro-prudential regulator is indifferent to whether the ratio is maintained or raised by the numerator (capital creation) or via the denominator (asset shrinking), as both result in a decrease in the overall capital ratio, which brings back the bank's probability of failure to an acceptable level (Hanson et al. 2011). The consequences for lenders and the real economy are, however, very different. If banks choose asset shrinking, this is the equivalent of a credit crunch, while if new capital is raised there are no negative effects (University of Warwick 2009).

Banks will in their own interest probably start by getting rid of those assets, which have a high probability of large losses given the event of a default. A problem occurs when banks sell these 'toxic' assets at the same time, voluntarily or on demand of the regulator, as this may result in a firesale (Hanson et al. 2011). As the price of individual assets decrease, the banks may run out of capital, forcing them to sell other assets in order to finance losses. These capital losses are typically financed by government-insured deposits, thus by taxpayers' contributions. Although this may prevent clients to do bank runs, it also generates an incentive for excessive risk-taking and moral hazard by bank manager. In order for micro-prudential regulation to work successfully, the probability of the deposit insurer bearing losses must be reduced to a low enough level (Hanson et al. 2011).

Hence, when banks decide to improve their capital ratios via the denominator it is typically carried out by cutting lending, resulting in the failing bank imposing an additional burden on other banks to "pick up the slack" (Hanson et al. 2011). This makes sense only in case there is a transfer of market share from weak to strong financial institutions. Yet in the situation where a large share of the financial institutions are troubled, a bank deciding to cut lending when no strong banks can replace its market share by providing an additional amount of credit, may cause severe damages to the overall economy. Some academics argue that when banks reacted to the financial crisis, they were not applying micro-prudential rules strictly enough, and that this should be strengthened, at least as a supplement to macro-prudential monitoring (University of Warwick 2009).

Another major weakness of micro-prudential regulation is its pro-cyclical nature, which relates to the timing of specific policy interventions (Hanson et al. 2011). For instance, a credit boom is not necessarily a concern for the micro-prudential regulator and may not be interpreted as a warning, as long as the individual financial institutions seem to be sound. Studies show that the credit boom preceding the recent crisis, showed only a minor correlation between the one-year-ahead expected default frequency in the Eurozone and the number of bank defaults in the US (ECB 2014). Asset prices were increasing leading to desirable side-effects such as apparent reductions in leverage ratios, volatility and risk levels. Individual financial institutions appeared healthy and sound, and from a micro-prudential perspective there was no need to raise concern. This phenomenon is referred to as "the paradox of financial instability", where the financial system appears strongest when it is actually most vulnerable (ECB 2014). Under these conditions the risk assessment of a micro-prudential regulator would most likely be flawed and risks highly underestimated.

Several empirical studies support this conclusion, i.e. banking crises may be caused by preceding credit booms, as credit grows more than economic fundamentals justify (ECB 2014). An excess supply of credit may arise if banks take on excessive risks, e.g. if they decide to accept much higher risks in their lending.

3.2. The financial crisis and its aftermath: a macro-prudential lesson

The financial crisis of 2008 started with failures of individual national financial institutions, but became systemic and rapidly escalated into a global financial crisis. The crisis expanded from direct exposure to subprime assets, to the loss of confidence in a large number of asset classes and the breakdown of lending in wholesale financial markets (Merrouche & Nier 2010). The crisis thus exemplified the systemic risks that had been disregarded in the preceding years, and which are today seen as the fundamental cause of the crisis.

The subprime crisis was primarily triggered by an expectation-driven real estate price bubble in the US prior to the period 2007-8, fuelled by easy credit and relatively low interest rates (Holt 2009). In August 2007 the collapse of the mortgage-backed security market led to liquidity freeze (Ferran et al. 2012). The run on Northern Rock followed in September 2007, the first major spill-over of the US crisis to Europe, resulted in a negative pressure on the asset side of bank assets. This increasing pressure on asset prices led all US banks to cut lending and to seek more liquid assets, which further increased the pressure on real estate and stock prices. The bailout of Bear Stearns in March 2008 aggravated the situation, and the collapse of Lehman Brothers in September 2008 led to a breakdown in the interbank lending of US and European banks (Ferran et

al. 2012). As a result, many banks were in a liquidity trap and some became insolvent as the value of their liabilities exceeded the value of their assets (Kølving 2014).

In accordance with the micro-prudential approach, banks started to cut lending, which further led to a credit-crunch. Increasing capital, the alternative to cutting lending, was not an option under existing market conditions (Hanson et al. 2011). The result was reduced levels of employment and investment, which in turn weakened the financial system.

The US response to the crisis was very rapid. It included a government purchase of failing bank assets, innovative intervention schemes by the Federal Reserve and re-regulation of the financial sector (Avgouleas and Arner 2013). In the EU the response to the crisis was much slower, as contradictory national policies and diversity among member states slowed down the necessary decision-making. Some of the Eurozone-countries chose to adopt policy tools based on their national needs, even if they did not comply with EU Single Market policies. For instance, the lack of a common deposit insurance resulted in member states adopting different policy measures in order to protect their domestic citizens, potentially causing dysfunction in the European financial markets.

In the wake of the financial crisis there seems to be a consensus among academics that more macro-prudential financial policies are needed (Hanson et al. 2011). The general equilibrium approach of macro-prudential regulation takes into consideration the systemic risks generated endogenously during expansionary periods of credit and business cycles, in contrast to micro-prudential regulation (ECB 2014). Macro-prudential supervision acknowledges the importance of the interlinkages between financial institutions, and their impact on the real economy.

Finally, macro-prudential policies seek a preventive or mitigating role, intended to prevent the build-up of systemic risk over time and have a macroeconomic stabilization dimension, which is not present in micro-prudential regulation (ECB 2014).

3.2.1. Macro-prudential policy tools

One of the main objectives of macro-prudential financial regulation is to prevent financial firms from shrinking their assets excessively in an economic downturn. The macro-prudential policy tools include different methods of adjusting either the numerator (capital creation) or the denominator (asset shrinking) of banks' capital ratio, and most of them are variants of their micro-prudential "cousins", but used in a counter-cyclical manner (Hanson et al. 2011). These include counter-cyclical capital buffers, sectoral capital requirements, caps on loan-to-value and debt-to-GDP ratios, but also tools of more preventive nature such as macro stress testing.

An important macro-prudential policy tool is counter-cyclical capital requirements (Kowalik 2011). These measures replace the pro-cyclical effect of micro-prudential regulation, which for the reasons described above are likely to amplify a recession. Under counter-cyclical capital requirements, banks must maintain higher capital ratios during booms than during recessions, which results in a smoothing of the credit cycle and supports financial stability of the real economy (Jiménez et al. 2012). The additional capital buffer increases the capacity to absorb losses in case of a shock and banks will be better prepared for economic downturns.

A system of counter-cyclical capital requirements may optimally combine the objectives of micro- and macro-prudential regulation, as it seek to satisfy both; 1) the micro-prudential objective of protecting the deposit insurance fund and 2) the macro-prudential objective of sustaining the provision of capital in bad times (Hanson et al. 2011). The Basel III accord introduced a discretionary counter-cyclical buffer to the EU regulatory framework, with the purpose of allowing national regulators to require up to an additional 2.5% of capital buffer during periods of high credit growth (BIS 2014a).

Macro stress testing is an essential macro-prudential policy tool, which links macro-financial variables with the health of financial institutions (Henry & Kok 2013). It has proved to be a useful tool to identify uncertainties and risks within the financial system, by assessing bank solvency and safety. During with the financial crisis, it has become the workhorse of analytical tools for macro-prudential risk assessment and it serves an essential tool of the ECB. The supervisory authority sets the standards for stress testing that the financial institutions should pass, and a mismatch between the bank's results and the benchmark will require the bank to comply, which starts a second round of stress-testing. This process will continue until the bank matches the benchmark, or is closed.

3.2.2. Micro- and macro-prudential policies as complementaries: the foundation of the new EU regulatory framework

Micro- and macro-prudential polices are not exclusive and the optimal regulatory framework may be achieved by implementing a combination. For instance, the existence of counter-cyclical macro-prudential policies may cause leading banks to collectively take on more risk ex-ante, as they may believe that a serious crisis will not be a risk (a variant of moral hazard). Such undesirable collective behaviour can be reduced by micro-prudential policies, e.g. when supervisory authorities regulate and target excessive risk-taking by individual financial institutions (ECB 2014).

Tensions may, however, arise between micro- and macro-prudential policies as they do not make use of the exactly same toolset. The two approaches could work in opposite directions, e.g. when micro-prudential policies do not internalise the potential negative implications it has at the macroeconomic level (ECB 2014). For instance, during an economic boom both micro- and macro-prudential policies will stipulate tightening of credit, i.e. impose higher capital and liquidity requirements. But during an economic downturn the two policy approaches tend to diverge, as micro-prudential policies push towards more strict regulations of individual financial firms, i.e. stricter capital requirements, while macro-prudential policies seek to "lean against the wind" to encourage banks to continue lending to support the real economy (Ozkan & Unsal 2014).

Macro-prudential instruments are of particular importance in the EU, as Eurozone member states have no national monetary policies. They have been strengthened by the introduction of the Basel III accords in 2011, where existing pre-crisis micro-prudential supervision has been given a counter-cyclical dimension designed to address systemic risks (ECB 2014). These are strong indicators of convergence between the micro- and the macro-prudential regulatory approaches.

4. The EU Banking Union

Prior to the financial crisis, the financial governance of the Eurozone reflected the German approach to central banking, in which the only task of the central bank is to target monetary or price stability. The Eurocrisis of 2010-11 revealed that despite decades of effort to build a Single Financial Market, the Eurozone still lacked proper crisis supervision and resolution mechanisms, in particular within the cross-border dimension. Much stronger integration of the EU financial systems was considered urgently necessary and the negotiations to establish the structure of the banking union had hastily begun. This led to the introduction of the two core elements of the banking union; the Single Supervisory Mechanism (SSM) with the ECB as the EU's chief banking supervisor, and a Single Resolution Mechanism (SRM) for banks (EC 2015). These initiatives built on a comprehensive Single Rulebook for all financial agents in the Eurozone and participating member states.

The post-crisis approach to the financial architecture of the Eurozone thus goes beyond the German approach to central banking. The responsibility of ECB now includes elements of both a) monetary and financial stability (macro-prudential), and b) financial supervision (micro-prudential) (VOXEU 2012a).

4.1. Historical perspectives

The pre-crisis consensus was, especially in the US, that a high level of market liberalization improves efficiency and economic growth without sacrificing financial stability (Breuss 2012). In the wake of the global financial crisis, the European Commission reversed its Single Market liberalisation strategy from deregulation to re-regulation of the EU financial system. An intermediate step towards a European Banking Union was the establishment of the European System of Financial Supervision (ESFS) in 2011, and the creation of three European Supervisory Authorities (Breuss 2012). By January 2011, these three European Supervisory Authorities (ESAs) and a European Systemic Risk Board (ESRB) under ECB, replaced the initial supervisory committees. This was a first step towards a EU banking union, even though there was little open political support for a banking union at that time.

At the Euro Area summit in June 2012, the participants decided to create a banking union, aiming at a more efficient centralised supervision and resolution for Eurozone banks (Breuss 2012). The first proposal was presented in the Four Presidents' Report and specified three core elements: 1) a Single Supervisory Mechanism (SSM), 2) a Single Resolution Mechanism (SRM) and 3) a common deposit insurance scheme. All three elements constitute the integrated financial framework of the banking union, which was to be built on a Single Rulebook. However, the final version of the Four Presidents' Report only referred to the two first elements and excluded the common deposit insurance scheme, due to a lack of political support. Instead the report opted for a less ambitious harmonizing process of national deposit insurance schemes (Skuodis 2014). As a result, the EU member states are subject to national deposit insurance schemes, but under the EU's Directive on Deposit Guarantee Schemes (DGS), where all member states are required to set up an ex-ante funded deposit protection of 100,000 euro (Breuss 2012).

Germany, as the largest Eurozone member state has had a decisive influence on the progress of the banking union. A number of German academics have argued that the common deposit protection scheme, which was intended to protect small depositors in case of a bank failure, might become a transfer of private savings from Northern to Southern member states (Breuss 2012). Furthermore, the German constitution may break or block the transfer of sovereignty from Germany to new EU institutions.

As of September 2015, the shape of the EU Banking Union has not been completely finalised. Following difficult and prolonged political negotiations, as well as compromises between the Council and the European Parliament, the main supervisory elements of the banking union formally were implemented in November 2014. But several core institutions, including the common resolution scheme, are not yet fully operational and a few are even still being discussed. In particular, the pan-European Deposit Guarantee Scheme is still at a very early stage in the negotiations (EC 2014).

4.2. The Single Supervisory Mechanism (SSM) – the first pillar

The SSM was implemented in November 2014 (EP 2015). The SSM comprises the ECB and the national supervisory authorities (NSAs) of the participating countries and its main purposes may be summarized as follows: 1) to ensure the safety and soundness of the European banking system, 2) to increase financial integration and stability and 3) to ensure consistent supervision.

A key macro-prudential supervisory role has been allocated to the ECB by the SSM; to monitor the implementation of the Single Rulebook and to ensure the financial stability of banks in the participating member states. The SSM is open to non-Eurozone member states if they establish a "close cooperation" agreement with the ECB (Geeroms & Karbownik 2014b). At this point in time no such agreement has been signed or discussed.

All banks in the participating member states will be under the supervision of the ECB, in principle approximately 6000 banks. In practice the supervisory tasks will be carried out in close cooperation with the national supervisory authorities (NSAs). The systemically important financial institutions (SIFIs), whose failure may have systemic consequences, are directly supervised by the ECB. These are characterized by having either 1) a total value of assets exceeding 30bn euro, or 2) a ratio of its total assets over the GDP of the member state where they are seated exceeding 20%, or 3) a notification by its NSA that it is an institution of significant relevance with regard to the domestic economy (Geeroms & Karbownik 2014b). In addition, the ECB supervises the three most significant credit institutions in each of the participating states, to ensure that the largest banks of small member states is under ECB supervision too.

The ECB conducted an Asset Quality Review (AQR) in January 2015 of all European banks, and conducted stress tests conducted in cooperation with the European Banking Authority (EBA) (Greene 2014). These tests determined which banks could be characterized as SIFIs and thereby be under direct supervision of the ECB.

The ECB directly supervises the 123 systemically significant banks of the participating countries, which in total hold almost 82% of banking assets in the euro area (ECB 2015). The supervision of

smaller banks remains mainly in the hands of their national authorities, but the ECB has the ultimate authority to supervise any bank on an ad-hoc basis if it finds that this is necessary.

The supervisory tasks of the ECB include the regular application of macro stress tests to financial institutions. The ECB may intervene in the monitoring of any distressed bank and has the legal authority to increase or adjust capital and risk levels. In case the stress test reveals the danger of a bank failure, the responsibility for the resolution lays with the SRM (EC Press 2014).

4.3. The Single Resolution Mechanism (SRM) – the second pillar

The second pillar of the banking union is the SRM, which will be operating in conjunction with the SSM. The main purpose of the SRM is to facilitate the restructuring of banks and credit institutions operating under the SSM, and to ensure the availability of medium-term funding to enable the bank to continue operating while being restructured (EC Press 2014). It is planned to be launched on the 1th of January 2016, and will consist of the Single Resolution Authority (SRA) and the Single Resolution Fund (SRF). The SRF, which is the common funding mechanism of participating member states, will be financed by bank contributions. It will gradually merge national resolution funds into a common European one over eight years.

The funding of SRF is planned to equal 1% of covered deposits of all credit institutions in all the participating member states, which amounts to approximately EUR 55 billion. The amount contributed by each individual bank will be calculated on the basis of its total liabilities and risk profile (Petersen 2014).

The SRM will be directly responsible for the resolution scheme of the SIFIs that are under ECB supervision, while the national authorities will retain responsibility for resolution schemes of smaller domestic banks. It is expected that the SIFIs that are under direct ECB supervision will be covering around 85% of the total contributions, while the remaining 15% will be coming from smaller banks (Danish Bankers Association 2014).

There will be a gradual mutualisation, i.e. the bundling of these monies is planned over the course of eight years starting from 2016. Until then, the SFR may borrow on the capital markets to replenish its funds and each participating member state must hold its own national sub-fund (Gordon & Ringe 2015). Approximately 40% of the funding is expected to be available in the first year, and further 20% in the second year (Petersen 2014).

The Single Resolution Board (SRB) will be in charge of ensuring a uniform application of the SRM in all participating countries (Gordon & Ringe 2015). The SRB will comprise permanent members, the European Commission, the European Council, the ECB and the national resolution authorities.

The SRM is not restricted to Eurozone members. All EU member states with a "close cooperation agreement" can participate conditional on them taking part in the SSM. Furthermore, non-Eurozone member states may participate in a separate intergovernmental agreement ('IGA on the SRF'), reached outside the TFEU framework (Gordon & Ringe 2015). The IGA regulates the pooling in the SRF of contributions raised from banks at the national level. In September 2015, 26

EU member states, everyone except the UK and Sweden, have signed an IGA on the transfer and progressive mutualisation of contributions to the SRF (European Commission Press 2014).

The capacity of the SRF may be considered as one of the key indicators of whether the banking union will succeed in mitigating the next financial crisis. Whether the target size and time horizon of the SRF, EUR 55 billion available in 2024, is sufficient to absorb large shocks, is crucial for the outcome of the banking union.

5. Challenges to the EU Banking Union

One of the few existing theoretical results derived, based on Mundell's theory of OCA, is very simplified and does not take into account the particular characteristics, structure and functioning of the EU Banking Union. As it was the case prior to the introduction of the euro, the banking union has been first and foremost a political decision and not the one of theoretical work. It is, however, relevant to examine the features of the EU banking in a theoretical context.

In the following, two challenges to the characteristics of the EU Banking Union will be presented. The first challenge concerns the first pillar, the SSM, and the role of ECB as the new ultimate supervisory authority. A major concern is the potential conflict between price and financial stability, but more important are the issues related to the single-supervisor architecture of the future EU bank supervision. The second challenge refers to the SRM and the ability of the SRF to sufficiently absorb shocks to the real economy, under the given remedies of the EU Banking Union.

5.1. Challenge of the SSM: The role of ECB as the new supervisory authority

The reasons for ECB is being entrusted with these centralized supervisory tasks, range from legal to practical (ECB 2013). From a legal perspective, a treaty change taking several years was not considered an option, as the SSM was needed urgently. The existing treaty allows for the granting of supervisory powers to ECB.

In practice, the ECB has been considered to be ready for the task. Before taking over its new responsibilities in November 2014, it already had a broad overview of the systemic risks facing the EU economy, a unique expertise in analysing financial institutions and the technical competences needed to carry out these tasks of very complex nature.

5.1.1. The potential trade-off between price and financial stability

A major issue related to the new extended role of the ECB, is the potential conflict of interest between monetary policy and banking supervision, i.e. price stability vs. financial stability. Until November 2014, following the German approach to central banking, the only task of ECB has been to ensure price stability. The new supervisory task of ECB may be subject to political and macroeconomic tensions.

Goodhart (2000) argues that the new supervisory responsibilities may threaten the independence of ECB and increase the risk of it becoming politically captured (Darvas & Merler 2013). This is, however, not an immediate threat.

In economic literature, there is no general consensus on the sign of the correlation between price and financial stability. Policies ensuring price stability and financial stability respectively would sometimes reinforce each other, and at other times they could weaken each other. Cukierman (2011) argues that whether price and financial stability complement or substitute each other, depends on the source of the shock that hits the economy (Eijffinger & Masciandaro 2012). He uses the recent financial crisis in the US as a case. The Federal Reserve used monetary policy to pump liquidity into the market, to ensure financial stability, with no visible inflationary response i.e. without sacrificing price stability. But the risk is that inflation will come later. Thus, there is a potential trade-off between price and financial stability, but the extent to which this will become an obstacle is uncertain.

Unexpectedly, the economic developments of 2014 showed that the risk of deflation was much higher than the risk of inflation (FT 2015). Traditional economic theory provides no clear explanation for this. The current deflationary pressure appears to, perhaps temporarily, eliminate the risk of price stability and financial stability policy conflicts for the ECB at this point in time. But the new and unexpected risk of deflation forces the ECB to identify the nature and persistence of the determining factors, and to develop strategies to cope with it.

5.1.2. Model by Boyer & Ponce (2011): what is the optimal number of supervisors?

A model by Boyer & Ponce (2011) is one of the few economic models that take into consideration the structural and supervisory characteristics of a banking union. It investigates the optimal number of supervisory authorities and examines the case where these may (mis)use their powers to benefit some banks, at the expense of other banks or the financial industry, at a cost to the society as a whole. In the following it will be applied to the EU Banking Union. As the EU regulatory system is already in place with the ECB operating as the single supervisor, the discussion may be regarded as theoretical or "academic", but the issues discussed may relevant at a later stage.

Boyer & Ponce (2011) ask whether or not a central bank should be in charge of micro-prudential and macro-prudential supervision at the same time, i.e. whether it is optimal to assign supervisory tasks to one authority, or to two (Eijffinger & Masciandaro 2012). In the framework of the banking union, the ECB is the ultimate supervisory authority of the participating banks, which corresponds to the case of a single supervisor conducting both micro- and micro prudential supervision in the model presented.

For simplicity and due to the limited scope of this analysis, the non-technical version of the model will be described in the following. The model is structured as a three-tier hierarchy, consisting of a benevolent financial stability committee, bank supervisors and banks (Eijffinger & Masciandaro 2012). The riskiness of a bank is private information and consists of two components, idiosyncratic (micro) risk and systemic (macro) risk;

$$r = \underline{r} + r_m + r_M,$$

where $\underline{r}$ denotes the minimum level of risk and r_m and r_M are two binary variables representing the micro- and macro components of risk respectively.

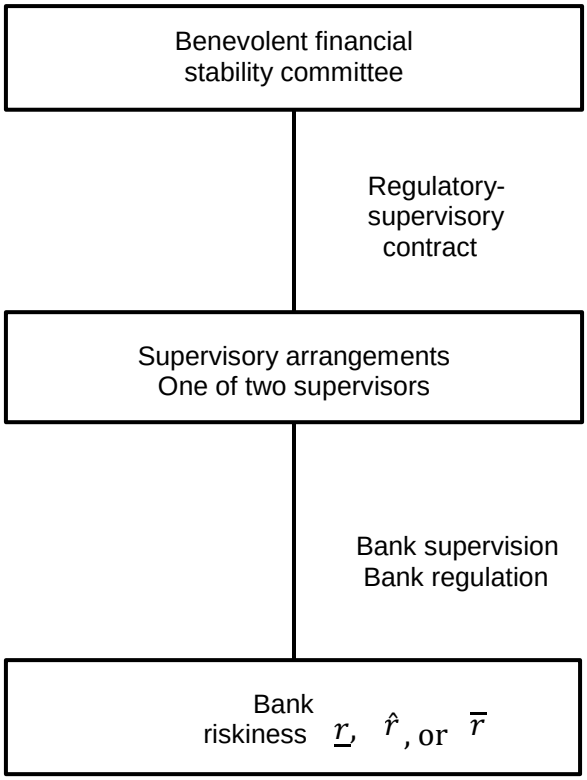
The benevolent financial stability committee does not observe this information, but has one or two supervisors to fill in its informational gap (Eijffinger & Masciandaro 2012). These supervisors are

endowed with imperfect informational technologies, which allow them to obtain veritable information on each dimension of the riskiness of a bank. The three-tier hierarchy structure of the model is illustrated in Figure 3.

In case of benevolent supervisors, the allocation of supervisory authority has no importance, as the supervisors are always truthfully reporting the information about banks' riskiness, which may lead to a socially optimal regulatory equilibrium.

Figure 3: The three-tier hierarchy of the model by Boyer & Ponce (2011)

Central Banking, Regulation and Supervision



Source: Boyer & Ponce (2011)

In case of non-benevolent supervisors, they may choose to hide information so that the financial stability committee remains uninformed, in exchange for some monetary bribes from banks. This creates a link between the supervisors and the banking industry, which may lead supervisors to deviate from the social optimum (Eijffinger & Masciandaro 2012).

Boyer & Ponce (2011) discuss three different supervisory arrangements: 1) the case of one supervisor collecting information about the riskiness of banks, 2) the case of two supervisors endowed with each their (different) supervisory technology, i.e. each supervisor only gathers information about one dimension of banks' riskiness and 3) the case where one supervisor is under the authority of another supervisor, i.e. where the superior supervisor observes the information of its subordinate, but the latter does not observe the information of the superior supervisor.

The findings show that arrangement 2), where supervisory authorities are split into different supervisory agencies that use separate risk-specific supervisory technologies, is the superior arrangement (Eijffinger & Masciandaro 2012). From an ex-ante point of view, separating supervisory powers between two supervisors reduces their discretion by limiting the scope of the information they each may gather.

Each supervisor is partially informed about the risk of the bank, while in the case of a single supervisor only, there might be perfect information but which could be used in a way to ask for bribes (Eijffinger & Masciandaro 2012). The gain in social welfare from using two non-benevolent supervisors, instead of only one non-benevolent supervisor, is at least equal to zero. Hence, there is a reduction in the social costs from obtaining two informative signals of a bank's risk profile, which reduces the costs for the financial stability committee to provide incentives to supervisors and hence to obtain trustworthy information. Thus, the separation of supervisory authority may improve social welfare.

5.1.3. Why two regulators? The theoretical argument

The model by Boyer & Ponce (2011) shows that the gain in social welfare from using two supervisors, instead of only one, is at least equal to zero. While there are good reasons for the ECB to take responsibility for macro-prudential supervision, it may be more socially optimal if its micro-prudential supervision is shared with another institution.

This theoretical claim is not in line with the architecture of the EU banking union, as it is operating with the ECB as the only regulator. The supervision of the most important Eurozone banks is carried out in cooperation with the national authorities and the ECB has the ultimate power to take over the control of a smaller or medium-sized national bank, which is not under regular ECB supervision. As this system is already operating, the following must serve as a discussion of how, at least some of the advantages of a system with two regulators, can be incorporated.

A regulatory framework with two supervisors is claimed to produce more trustworthy information than a single supervisor. In the following the theoretical results of Boyer & Ponce (2011) will be discussed in the context of the existing EU Banking Union. What are the reasons for, and what are the arguments against, the establishment of two separate supervisory authorities? How may any advantages, resulting from a two-supervisor architecture, be incorporated in the current single-supervisory framework?

In a system with two regulators, one would be the ECB, the other a new institution perhaps accountable to the national regulatory authorities, which are accountable to the national governments. In practice there are several advantages and disadvantages related to the two-supervisors arrangement. Among the most important *advantages* are the following:

- It helps the ECB to become more accountable, at least indirectly. The new institution would produce a second opinion, and the total accountability of financial supervision to politicians and society as a whole would be improved.

- As big banks would be controlled by two independent bodies, the quality of supervision should be strengthened, and the stability of the financial system enhanced.

- It optimizes of the use of existing competences and technical expertise. Although national supervisory authorities help the ECB with information on big banks, they are not responsible for the supervision and this would be reflected in their priorities. The risk is that national experience will be underutilized, and in worst case lost, reducing the quality of ECB supervision.

- It reduces the risk of different regulatory treatments of larger, ECB-supervised banks, and smaller national banks regulated by the national authorities. This is not a problem that the ECB addresses, but an obvious task for a new institution, based on the national regulation authorities.

The two-supervisors arrangement also has several *disadvantages*, real or potential:

- Duplication of work may occur, leading to higher administrative costs and potentially waste of resources.

- The two institutions may have conflicting evaluations of a bank's financial situation, which may reduce the quality of financial supervision in the banking union. In practice this is unlikely to occur, but it remains a theoretical possibility.

The keyword in the context of the Boyer & Ponce (2011) model is 'accountability'. The more the ECB is accountable to the national authorities, and vice versa, the more efficient the information flow and the better the quality of bank supervision.

There is, however, no generally acknowledged definition of accountability (Dashorst). The definition often used in the EU context is the following: 'Accountability is the legal and political obligation of the ECB to explain and justify its decisions to the citizens of the EU and their elected representatives, and it is enhanced by a high degree of transparency' (ECB 2014). The national regulatory authorities are not mentioned. The citizens and their elected representatives have very limited ability to interpret ECB explanations justifications. This accountability is thus severely diluted.

5.1.4. How accountable is ECB financial supervision?

In the following, the level of accountability of the ECB in the performance of its new supervisory tasks will be discussed. If the accountability is insufficient, it would hinder the ECB in dealing with the issues related to its single-supervisory arrangement and hamper the functioning, performance, and success of the EU Banking Union, as such (Niknejad 2014).

The findings of the Boyer & Ponce model (2011) suggest that the risk of incomplete, asymmetric or incorrect use of information in the performance of the supervisory tasks of the ECB, would be minimized if there was a two-supervisors arrangement. The ECB has operated as the single supervisor since November 2014. That is too short a period to post judgement, and as there is no political plan to establish another institution, the discussion may be considered academic. Nonetheless, the issues are real and merit discussion.

The independence of the ECB has been strongly emphasized since its creation, and as a result, its obligations to report and to be held accountable have been more limited (Niknejad 2014). There is

fine line between holding the ECB accountable and giving it sufficient manoeuvring space and autonomy (Chondrogiannis 2013). This balance is crucial and represents a now and perhaps bigger challenge to the ECB in its supervisory role in the banking union.

Several formal initiatives have been agreed upon in order to ensure accountability of the ECB in its supervisory role. The Commission proposal has made the SSM formally accountable to the European Parliament and to the Council/Eurogroup, to be sustained by a flow of reporting and inquiring (Chondrogiannis 2013). The Chair of the Supervisory Board is obliged to present the annual report in public to the European parliament, participate in ordinary public hearings on the execution of its supervisory tasks twice a year, ad-hoc exchanges of views by invitation, and if required in special confidential meetings (EP Briefing 2015). Also, upon request from the European Parliament, the Chair of the Supervisory Board is required to hold confidential oral discussions behind closed doors with the Chair and Vice Chairs of the relevant committees of the European Parliament, where such discussions are needed for the correct exercise of the European Parliament's powers under the TFEU (EP Briefing 2015).

Another formal initiative to ensure the accountability of the ECB, is an agreement on 'democratic accountability', which was negotiated by the European Parliament during the Irish EU Presidency in 2013 (Niknejad 2014). The 'transfer of competence from the national to the EU level without transferring the accountability' has been a source of concern to many EU member states, which has resulted in the following three actions (Niknejad 2014). First, the establishment of a stronger accountability mechanism has been implemented by the co-appointment of the chair and vice-chair by the European Parliament (Niknejad 2014). This also obliges the European Parliament to provide better access to information and it distributes more power to national authorities. Second, the agreement provides better access to documents for the EU supervisory authorities vis-à-vis banks, as well as for the European Parliament and national parliaments vis-à-vis the EU supervisor authorities (Niknejad 2014). Third, the agreement ensures a division of staff, within the ECB, between monetary policy tasks and supervisory tasks.

Formally speaking, accountability seems to be comprehensive. In practice, ensuring the fulfilment of those formal accountability requirements is not simple, nor ensured. The new supervisory mandate of the ECB requires a substantial level of competence and accountability to provide an effective supervision. The ECB has hired new staff with the required competence to exercise its new supervisory function. These competences are not in the European Parliament or in the Council (Chondrogiannis 2013). In terms of information and competence, there is little doubt that the ECB has the upper hand (Niknejad 2014).

National parliaments may still be involved in the supervision of their largest and most important banks, but not nearly as much as before the banking union, when they functioned as national supervisory institutions (Chondrogiannis 2013).

A tentative conclusion is that the accountability of the ECB is questionable and may limit its ability to perform supervisory tasks in the future, especially if there is a financial crisis requiring taxpayers money and thus political support in the national parliaments (Chondrogiannis 2013). The formal requirements concerning reporting on an annual basis, twice-yearly or on an ad-hoc

level are unclear, vague and untested. The institutions cannot match the technocratic competence in the ECB.

5.1.5. Policy recommendation: How to overcome the drawbacks of the single-supervisor arrangement?

This weakness may diminish or even disappear over time, as the system will become more established and tested. It is also likely that the strengths of the other elements of the EU Banking Union will compensate for the potential lack of accountability of the ECB. However, the lesson drawn by Boyer & Ponce is of crucial concern. A second supervisory body would significantly strengthen the system, and would once and for all allow the ECB to credibly, efficiently and successfully fulfil its tasks as chief supervisor.

One proposal is formulated by Chondrogiannis (2013), who argues that the accountability of the ECB to its supervisory tasks may be strengthened by the creation of a separate body within the ECB (Chondrogiannis 2013). This body should ensure communication at the highest echelons with the rest of the institution but will have its own structure, management and head. He claims that this would imply a structure that is accountable as a body, but which will sustain access to ECB mandate, resources and reputation. According to Chondrogiannis (2013), this could address the issue related to the fact, that the design around the ECB was build on different foundations.

However, this may not solve the problem, according to the framework of Boyer & Ponce (2011), the second regulator needs to be independent and to make use of its own supervisory technology. It is difficult to see how Chondrogiannis's proposal differs from the current organisation of supervision in the ECB, which is completely separate from its monetary role.

Another proposal could be to create a supervisory body that represents the national authorities of the member states and operates separately from the ECB framework. The ECB would then be accountable to another separate and independent regulator, with a level of competences and expertise needed to judge its actions. Using its own supervisory technologies, in line with the theoretical findings of Boyer & Ponce (2011), this new body could serve to ensure accountability of the ECB vis-à-vis itself, vice versa, as well as to the politicians, the press and the general public. Furthermore, this new supervisory body might be able to make better use of the existing knowledge, competences and technical expertise currently stored in the 18 national authorities of the Eurozone member states. This new body should operate within the present treaty (TFEU) and require no treaty change. In practice, the ECB's as supreme supervisory authority is final and will not be put into question. A problem with this proposal is that it has no political future, at this time.

A third proposal, given there is no political support at this time to create a new institution, would be for the national regulatory authorities to strongly upgrade the cooperation. The national authorities need to do more to balance and supplement the single supervision of the ECB, if total accountability is to be improved.

The national regulatory authorities could create a network, with or without a formal structure, to increase the flow of information between them. Regular meetings of the heads of national regulatory authorities, a close cooperation between national central banks (micro-prudential competences) and national regulatory authorities, micro-prudential competences, would strengthen

the supervision platform, not just of the national regulatory authorities but also of the ECB, which would receive information and evaluations of higher quality.

Such cooperation need not compete with the ECB, but supplement ECB supervision, and perhaps in some cases serve as a second opinion giving the ECB more credibility, accountability and political support with little risk of open conflict between the ECB and the network of national regulatory authorities.

5.2. Challenge of the SRM: The scope of the Single Resolution Fund (SRF)

Although the banking union is starting with the SSM, there is a wide agreement among academics that the real benefits will come from the common resolution scheme (Schoenmaker & Siegmann 2013). It is crucial for the banking union to be considered a success, that its resolution scheme demonstrates that a future banking crisis will be handled rapidly and safely. In particular, the size of the SRF is a key indicator of whether the banking union is sufficiently shock absorbing, and thus whether it will succeed in mitigating the next financial crisis.

Yet it is not given that a large SRF will make the Eurozone better off, as this may exacerbate excessive risk-taking during booms, i.e. generate moral hazard (Burke 2015). Banks that have become "too-big-to-fail" may take advantage of this. These large and systemically important banks may intentionally perform risky activities under the protection of the implicit state subsidy that the SRF represents. As a result of reckless behaviour, this may create an artificially high demand for SRF funding, which could lead the safety net to collapse, and an even deeper economic downturn than the one it was intended to deal with in the first place. Thus, there is a trade-off between a sufficiently large resolution fund and the potential risk of moral hazard, which the banking union should seek to address (Burke 2015).

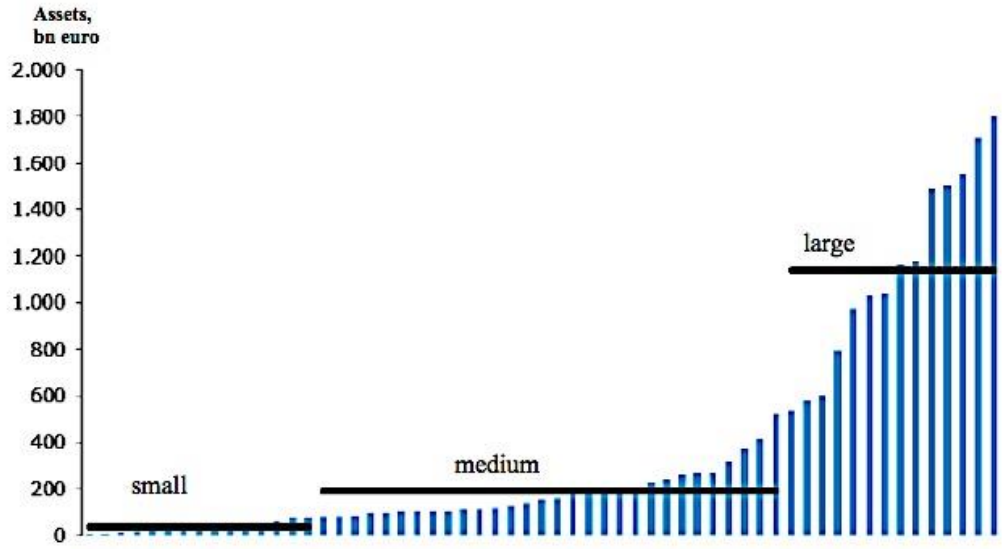
The SRF must be readily available on the "critical Monday morning" after a rescue weekend, which is not likely with the envisaged decision-making structure (Gordon & Ringe 2014). To accommodate this immediate and urgent need for funding, the SRF has been given the possibility to borrow on the capital market to replenish its funds. Gordon & Ringe (2014) claim that this does not solve the problem, since such loans will not be endorsed by governments, and the SRF may only exceptionally call on support from the ESM (Burke 2015). They claim, that funds of this scale cannot be raised by a scheme built on annual contributions, and that it can only be credibly provided by a (European) central bank.

5.2.1. Simulation of SRF target size: is it sufficiently shock-absorbing?

The planned size of the SRF is not the result of economic theoretical studies, but based on the recent empirical experience of the financial crisis, and it is also the result of political compromises. A study by the Danish Bankers Association uses a simulation to evaluate whether or not the size of SRF is sufficiently large to absorb a shock of the size of the recent financial crisis (Danish Bankers Association 2014).

The study distinguishes between small (balance of EUR 36 billion), medium (balance of EUR 18 billion) and large banks (balance of EUR 1,140 billion). Figure 4 shows the distribution of the 59 European banks included in the sample. These three size categories of banks each hold a bail-in capital accounting for respectively 17%, 11% and 11% of their total assets.

Figure 4: Classification of EU banks by size



Source: Danish Bankers Association (2014)

Small banks have a larger share of bail-in capital relative to their size of total assets, whereas large banks have a relatively low level of bail-in capital. It is, however, important to note that the asset components of different EU member states' banks differ significantly, both with regards to the type of capital, composition and the share of bail-in capital. Thus, the findings must be interpreted with caution.

Consider a case where the banks are hit by a shock leading to the same reduction in capital as the recent banking crisis in EU, where banks' assets on average depreciated by 7.1% (Danish Bankers Association 2014). The capacity of the SFR, EUR 55 billion, will only be used in case of shocks where the losses exceed the bail-in capital held by banks.

Table 2 shows that the average small, medium and large banks in Europe are all capable of absorbing a shock of the same magnitude that hit the EU during the recent crisis (depreciation of 7.1%). In case of a shock of that size, a small bank will be able to absorb the losses generated by using 88% of their total stock of capital. Medium-sized and large banks (SIFIs) would absorb the shock using 100% of their capital

In case of a major shock to the EU economy, leading to a depreciation of capital of 15%, the small banks would still be able to finance the losses themselves. A small EU bank would, on average, use 100% of their capital to overcome the losses. An average medium-sized bank would use all of its capital, and need financial assistance from the SRF amounting to EUR 7.3 billion. A SIFI would use all of its bail-in capital, and next to this it would need a contribution of EUR 49 billion from the SRF. If it does not obtain the necessary financial support, it will close and potentially impose negative spill-over effects to such a large extent, that it triggers a collapse to the entire financial system.

Table 2: Resolution of distressed EU banks at different shock and bail-in levels

Size of bank	-- Small --			-- Medium --			-- Large (SIFI) --		
Shock									
Depreciation	2,7%	7,1%	15,0%	2,7%	7,1%	15,0%	2,7%	7,1%	15,0%
Amount (bn euros)	1.0	2.6	5.4	5.0	13.3	28.1	30.8	80.9	171.0
Absorbtion									
Bail-in capital	33%	88%	100%	48%	100%	100%	49%	100%	100%
Support from SRM (bn euros)	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***7.3***	***0.0***	***0.0***	***49.0***

Source: Danish Bankers Association, October 2014

Thus, the study suggests that a SIFI would need EUR 49 billion from the SRF in order to absorb a shock that causes capital to depreciate by 15%. This estimate is below the target size for the SRF of EUR 55 billion. Hence the SRF should, by construction, be able to fund the bail-out of an average large and important EU bank in case of a major shock to the EU economy (15% depreciation in assets). The SFR will only be needed in case of a shock of double the size of the shock that hit the EU economy in the period 2008-2012 (Danish Bankers Association 2014). This is, however, based on the assumption that only one SIFI will need to be rescued. This is a key result and its magnitude and consequences for the success of the banking union will be discussed in section 8.

6. Discussion: Will the EU Banking Union succeed?

Although the theoretical foundations are disputed, the nascent EU Banking Union has a number of strong features, which may increase its chances of succeeding. First, it combines micro- and macro-prudential policies and it thus acknowledges a major lesson of the financial crisis, that counter-cyclical and preventive policies complement each other. Second, some theoretical models do support the introduction of a banking union, including an extended version of the classical theory of OCA, which shows that a banking union may lead to a stronger EMU. Other theoretical arguments imply that the EU Banking Union is not optimal. An important concern is the new role of the ECB as the ultimate supervisor. Besides the risk of a conflicting policy in the trade-off between price and monetary stability, the Boyer & Ponce model (2011) shows that in an EU context, a single-supervisor arrangement is most likely not optimal in terms of social welfare. It is thus crucial that the ECB is adequately accountable in its new supervisory tasks, in order to remedy the potential issues related to this single-supervisory setting.

It is, however, very difficult to predict the outcome of the EU Banking Union based on theoretical models exclusively. These models often fail to include the spill-over effects, in particular the political dimensions of such large changes in the regulatory framework. This may be similar to the debate prior to the introduction of the euro, where theoretical models failed to predict the real outcome.

The key criteria for the success of the EU Banking Union may be summarized as follows:

1° *the ECB must be sufficiently accountable in the performance of its supervisory tasks to remedy the potential issues related to the single-supervisor arrangement.*

2° *the existence of a sufficiently large shock absorbing mechanism, i.e. the SRF, without generating excessive risk-taking and moral hazard.*

3° *political willingness to implement much stronger integrated financial regulation, i.e. increased risk sharing and transfer of competences to the federal level. The Greek crisis, still unsolved, has shown that this political willingness is fragile at best.*

4° *an efficient decision-making procedure at the EU level in times of crisis.*

The criteria will be discussed as follows:

1) The banking union has resulted in a shift in the 'independence vs. accountability balance' of the ECB. Prior to the introduction of the banking union, following the German approach to central banking, the ECB has been given a lot of space to achieve its, at that time, main objective of maintaining price stability. It has been considered one of the most independent and credible central banks in the world (Dashorst). Along with its new supervisory tasks, the ECB must be held accountable to a higher degree, in particular towards national authorities (Chondrogiannis 2013). The ECB now exhibits the power to take significantly important decisions related to the supervisions of national banks on behalf of member states, which have given up a large part of their national sovereignty to transfer bank supervision to the EU level.

While it is possible that other elements of the SSM, such as the independence and strong credibility of the ECB and the hiring of new well-educated and technically competent staff to perform supervisory tasks, may compensate for the potential lack of accountability of the ECB, the creation of a second supervisory body (or other counterweight) is strongly recommended. This would give the ECB a better chance to fulfil its new supervisory tasks. If the decision to establish a second supervisory authority lacks political support, closer cooperation between the national regulatory authorities, perhaps a more formalized network, could supplement the supervision of the ECB. This would improve its accountability and the efficiency of financial supervision in the banking union.

2) Is the Single Resolution Fund big enough? A resolution fund of the planned size, EUR 55 billion, will most likely not be able to absorb the shocks of the next financial crisis. It has been criticized by the ECB for being too small (Gordon & Ringe 2015). A fund of this size would be able to bail out a few medium-sized banks or a single SIFI. But the last financial crisis revealed that a systemic banking system shock did lead to the simultaneous failure of several banks, with costs amounting to EUR 350 to 650 billion for the whole EU (Persson & Ruparel 2012). This indicates that for the resolution fund to be sufficiently shock absorbing, it must be at least EUR 500 billion, which is approximately 10 times the size that of the planned SRF (Gordon & Ringe 2015). Thus, the targeted size of the SRF may not ambitious enough, potentially damaging the credibility of the EU Banking Union.

It is thus likely that the shock-absorbing mechanism of the banking union, the SRF, will be insufficient and remain incomplete until at least 2024. Which institution should serve as the ultimate backstop, when the EUR 55 billion run out, or if the next shock hits before the planned target size has been reached? In the current institutional framework, there are two options; the ESM or the ECB. The ESM would be able to ensure the rescue of a relatively large number of

SIFIs in case of a shock, in contrast to the SRF. The ESM currently acts as a back-up option and if insufficient, it opens the door to further financial support from governments. There is, however, always an uncertainty attached to political decision-making, not least the speed of that decision-making, in an acute crisis situation.

The ESM is open only to Eurozone members, but the banking union may also include non-Eurozone member states. This "exclusivity" of the ESM makes it inappropriate as an integrated element of the banking union, where also non-Eurozone member states may take part.

Currently the ECB is the only existing EU institution with the ability to ensure a resolution of big systemically critical EU banks in case of a major shock, as it can create unlimited amounts of liquidity and could react rapidly in case of an unanticipated shock to the real economy. The role of the ECB as the lender of last resort, however, is exactly what the nascent EU Banking Union is constructed to avoid. As Wyplotz (2012) argues, the role of the ECB as the lender of last resort could give banks an implicit bailout insurance that could encourage risky behaviour (Beck et al. 2012).

Banks should be allowed to fail. In order to prevent excessive risk-taking and the creation of moral hazard, the objective of the SRF should clearly facilitate the failure of an insolvent bank, and not to bail it out (EU Press 2014). The incentives to excessive risk taking should be minimized by both micro- and macro-prudential financial regulation. Some believe that the micro-prudential supervisory component of the EU Banking Union, i.e. the ECB's tight supervision of banks' management and regular macro stress tests, will succeed in preventing excessive risk taking. But this has not been tested in a crisis situation.

Another weakness is the fact that the full funding capacity of the SRF is not expected to be available before 2024. This reflects the difficulties of achieving the political compromise required to go forward with the union. This can be a serious issue if there is a rapid formation of asymmetric shocks. It is a political question whether or not the banking union will be able to provide alternative funding, in case the SRF is not yet complete at the time when the next shock hits the real economy.

3) Do politicians really want a banking union? Not at any price. A strong political willingness to increase risk sharing and transfer additional competences to the federal EU level is essential for the functioning of the banking union. Despite several conflicts of interest, and the constraints of the German constitution, there seemed to be a political will to accept more financial integration for the sake of reducing future damage to real EU economy in a crisis situation, notably in terms of growth and employment. The Greek crisis has had a very negative impact, but political compromises will probably be found as long as there is fundamental support for continued Greek participation in the Euro and membership of the EU.

Despite the fact that the member states have agreed on a common resolution scheme, increasing risk-sharing, many academics argue that without a backstop in the format of a federal deposit insurance the banking union will remain incomplete (Elliot 2012). Currently, deposit guarantee funds are purely national and a common deposit insurance scheme would provide more level

playing field for banks and more safety for depositors, especially countries in crisis. The political will to share the national risks of deposits at the European level is currently absent.

4) Can a banking union make decisions in time? If the third success criterion is to be met, agreement on the procedure of rapid decision-making in a crisis situation is vital to ensure a well-functioning banking union, and not just handling resolution in case of bank failures. The general EU response to the financial crisis was belated, which may have aggravated the EU banking crisis and later the sovereign debt crisis. It is likely that when the next financial crisis breaks and the members of the banking union will short-circuit the formal rules and respond rapidly if so required.

Although the shock-absorbing element of the banking union, the SRM, suffers from several severe drawbacks, the SSM may compensate. Under the SSM, the ECB directly supervises the 123 large and systemically important EU banks, holding 82% of all bank assets. If the ECB keeps these banks on a short leash, combining micro- and macro-prudential regulatory tools, the banking union should have a good chance of success.

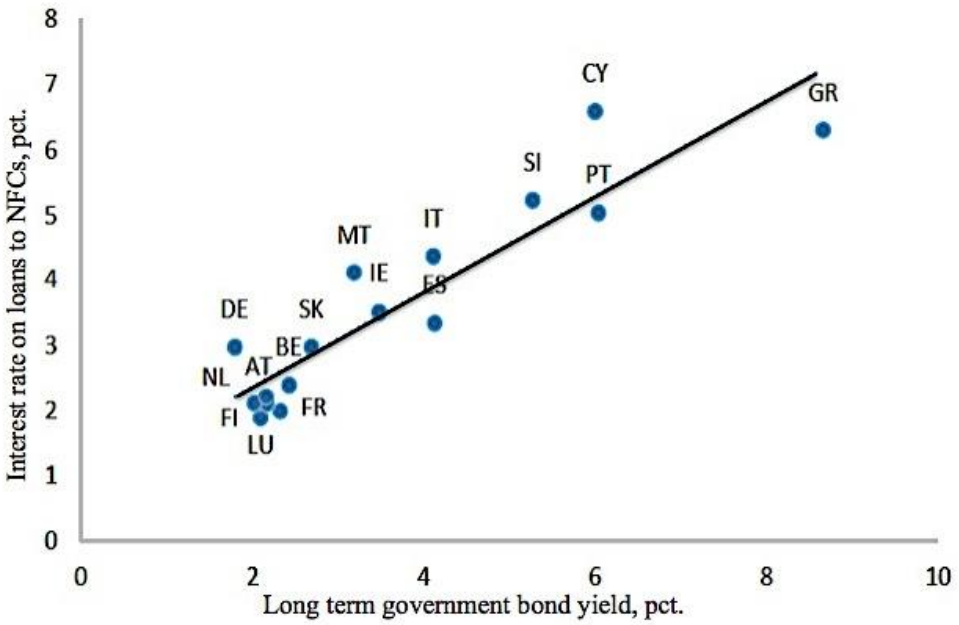
6.1. Has the EU Banking Union started to break the 'doom loop'?

The EU banking union has started its long and challenging transition period. The core elements of the banking union will be gradually implemented, but it is not complete before the common resolution fund has reached its target level in 2024 (Roldán & Lannoo 2014).

The project will remain fragile during the transition period. There is the potential risk that the Eurozone countries will fail to find a compromise regarding a common deposit insurance scheme, and that the SRF will not reach its target level by 2024. During the transition period, failing banks are forced to rely on national resolution schemes, which in some Southern member states continue to be weak. Furthermore, the member states are facing different recovery paths. Some countries have started the recovery very recently, which is still a threat to government finances (Roldán & Lannoo 2014).

It appears that bank wholesale lending costs show a tendency of convergence as a result of the financial reforms. But lending costs for businesses in the Southern member states still differ significantly from those of the Northern member states, as shown in figure 5. This is especially the case with Greece, the real outlier, which is expected to have diverged further in the first half of 2015. The outcome of the current Greek crisis may have implications for the banking union, but they are too uncertain to be discussed in this paper.

Figure 5: Long term government bond yield and FNC lending rates, 2014



Note: Long term government yield with 10 years maturity, and interest rate on outstanding loans up to one year to non-financial corporations (NFCs).
Source: ECB

This reveals that there still a long way to go before a breaking of the "doom loop" in the EU will be a reality.

7. Conclusions

The EU Banking Union combines both micro- and macro-prudential regulation. It will gradually be implemented into the post-financial crisis regulatory framework with the objectives to break the "doom loop" between banks and sovereign debt, to promote financial stability and to mitigate the next financial shock to the real EU economy, at the minimum cost to the taxpayer.

The two main pillars of the banking union, the SSM and SRM, face challenges. Under the SSM, the new supervisory role of the ECB may be subject to conflict between the objectives of price and financial stability. Given the risk of deflation, this may be of future consideration. More important are the issues related to the new single-supervisory mechanism, which appears to be sub-optimal theoretically. The ECB may not deliver on an adequate level of accountability and information flow vis-à-vis the national regulatory authorities, and its obligation to be formally accountable to politicians with non-expertise competences in the European Parliament and the Council, may not be politically acceptable in the long run.

The size of the SRF, under the SRM, may be insufficient to deal with a crisis of the severity on the scale of the last one. The EU banks are individually, on average, able to absorb asymmetric shocks of relatively large magnitude. The systemic problem arises when a shock triggers the simultaneous failure of several large and systemically important banks. The next financial crisis will be the crucial test, but its scope and nature is unknown.

Despite these uncertainties, the EU Banking Union will most likely succeed. The absence of a second supervisory authority, under the SSM, may be a shortcoming. But by improving co-operation between national regulatory authorities and perhaps a more formal network compatible with the TFEU, it should be possible to mitigate the negative effects.

The sufficiently large shock-absorbing "cushion" under the SRM may be too small, but a strict and efficient supervisory mechanism under the SSM would reduce the funds required in a crisis situation. The key to this will be the quality of the ECB supervision. As long as the ECB keeps the 123 systemically important EU banks on a short leash, and banks continue to strengthen their capital structure, the banking sector as a whole should become more resilient to crisis.

In the next financial crisis it is reasonable to assume that the minimum political will materialize to support the banking union. Initiatives may include providing extra finance for the SRF, perhaps utilising the ESM, and taxpayers' money as the final backup. If the Euro, growth and employment are collapsing, politicians are likely to save the banking union, if for no other reason, because the alternative – financial and economic chaos – is unacceptable.

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